2812 SAN

N THE UNITED STATES PATENT AND TRADEMARK OFFICE

1:24:03

PATENT

In re application of: Lynn E. VANATIA

Application No.: 09/905,593/

Filed: July 13, 2001

Title: METHOD FOR THE DETERMINATION OF LOW-CONCENTRATION ANIONS IN THE PRESENCE OF AN EXCESS OF ANOTHER

ANION

CERTIFICATE OF MAILING (37 C.F.R. 1.8)

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, DC 20231 on the date indicated below:

Date: March 19, 2002

Signed: Klue A. Flazer

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents BOX PATENT APPLICATION Washington, D.C. 20231

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the documents listed on attached Form PTO SB/08A be considered by the Examiner and made of record. A copy of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

In accordance with 37 C.F.R §§ 1.97(g),(h), this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be

construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Supplemental Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R § 1.97(b). No fees are believed to be due in connection with the filing of this Supplemental Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Assistant Commissioner is hereby authorized to charge such fees to Deposit Account 23-2426 (Order No. 25185-P001US).

Respectfully submitted, WINSTEAD SECHREST & MINICK, P.C.

Jeffrey L. Wendt

Registration No. 32,952

600 Town Center One 1450 Lake Robbins Drive The Woodlands, Texas 77380 Telephone: (281) 681-5929

Facsimile: (281) 681-5900

Please type a plus sign (+) inside this box ->
Under the Paperwork Reduction

1

PTO/SB/08A (8-00) (Modified)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent & Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

bstitute for form 1449A/PTO

Sheet

NFORMATION DISCLOSURE STATEMENT BY APPLICANT

1

(use as many sheets as necessary)

of

,	
С	mplete if Kn wn
Application Number	09/905,593
Filing Date	July 13, 2001
First Named Inventor	Lynn E. VANATTA
Group Art Unit	2812
Examiner Name	To Be Assigned
Attorney Docket Number	25185-P001US

U.S. Patent Document Number Kind co- (if know) 45,227. 236,042 . 36,892 06,710 .00,522 359,432 789,746 581,081 468,452 447,553 368,727 331,160 331,159 es. 347,396 285,064 266,192		Date of Publication of Cited Document MM-DD-YYYY 06/12/2001 05/22/2001 10/03/2000 08/22/2000 08/08/2000 01/12/1999 08/04/1998 12/03/1996 11/21/1995 09/05/1995 11/29/1994 07/19/1994 05/31/1994	Where Relevant Passages or Relevant Figures Appear
45,227. 36,042 . 36,892 06,710 .00,522 359,432 789,746 581,081 468,452 447,553 368,727 331,160 331,159 es. 347,396 285,064	Moon et al. Kato et al. Apffel, Jr. et al. Fischer et al. Chiang Kato et al. Kato et al. Kato et al. Hagiwara Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	05/22/2001 10/03/2000 08/22/2000 08/08/2000 01/12/1999 08/04/1998 12/03/1996 11/21/1995 09/05/1995 11/29/1994 07/19/1994	
336,042 . 36,892 . 06,710 . 00,522 . 359,432 . 789,746 . 581,081 . 468,452 . 447,553 . 368,727 . 331,160 . 331,159 . es. 347,396 . 285,064	Kato et al. Apffel, Jr. et al. Fischer et al. Chiang Kato et al. Kato et al. Kato et al. Hagiwara Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	05/22/2001 10/03/2000 08/22/2000 08/08/2000 01/12/1999 08/04/1998 12/03/1996 11/21/1995 09/05/1995 11/29/1994 07/19/1994	
. 36,892 . 06,710 . 00,522 . 359,432 . 789,746 . 581,081 . 468,452 . 447,553 . 368,727 . 331,160 . 331,159 . es. 347,396 . 285,064	Apffel, Jr. et al. Fischer et al. Chiang Kato et al. Kato et al. Kato et al. Hagiwara Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	10/03/2000 08/22/2000 08/08/2000 01/12/1999 08/04/1998 12/03/1996 11/21/1995 09/05/1995 11/29/1994 07/19/1994	
06,710 00,522 359,432 789,746 581,081 468,452 447,553 368,727 331,160 331,159 es. 347,396 285,064	Fischer et al. Chiang Kato et al. Kato et al. Kato et al. Hagiwara Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	08/22/2000 08/08/2000 01/12/1999 08/04/1998 12/03/1996 11/21/1995 09/05/1995 11/29/1994 07/19/1994	
00,522 859,432 789,746 581,081 468,452 447,553 368,727 331,160 331,159 es. 347,396 285,064	Chiang Kato et al. Kato et al. Kato et al. Hagiwara Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	08/08/2000 01/12/1999 08/04/1998 12/03/1996 11/21/1995 09/05/1995 11/29/1994 07/19/1994	
359,432 789,746 581,081 468,452 447,553 368,727 331,160 331,159 es. 347,396 285,064	Kato et al. Kato et al. Kato et al. Hagiwara Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	01/12/1999 08/04/1998 12/03/1996 11/21/1995 09/05/1995 11/29/1994 07/19/1994	
789,746 581,081 468,452 447,553 368,727 331,160 331,159 es. 347,396 285,064	Kato et al. Kato et al. Hagiwara Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	08/04/1998 12/03/1996 11/21/1995 09/05/1995 11/29/1994 07/19/1994	
581,081 468,452 447,553 368,727 331,160 331,159 es. 347,396 285,064	Kato et al. Hagiwara Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	12/03/1996 11/21/1995 09/05/1995 11/29/1994 07/19/1994 07/19/1994	
468,452 447,553 368,727 331,160 331,159 es. 347,396 285,064	Hagiwara Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	11/21/1995 09/05/1995 11/29/1994 07/19/1994 07/19/1994	
447,553 368,727 331,160 331,159 es. 347,396 285,064	Apffel, Jr. et al. Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	09/05/1995 11/29/1994 07/19/1994 07/19/1994	
368,727 331,160 331,159 es. 347,396 285,064	Takahashi et al. Whitt Apffel, Jr. et al. Ohnuma et al.	11/29/1994 07/19/1994 07/19/1994	
331,160 331,159 es. 347,396 285,064	Whitt Apffel, Jr. et al. Ohnuma et al.	07/19/1994 07/19/1994	
331,159 es. 347,396 285,064	Apffel, Jr. et al. Ohnuma et al.	07/19/1994	
es. 347,396 285,064	Ohnuma et al.		
285,064			
	willoughby	02/08/1994	
266,192	Linem et al	11/30/1993	
	Ligon et al. Kato et al.	08/31/1993	
240,616		06/29/1993	
223,131	Apffel, Jr. et al. Asakawa et al.	05/26/1992	
117,109		01/01/1991	
982,097	Slivon et al.	12/25/1990	
,980,057	Dom et al.	11/06/1990	
,968,885	Willoughby Andresen et al.	09/19/1989	
,867,947	Brandt et al.	09/05/1989	
,863,491		07/25/1989	
,851,700	Goodley Sakairi et al.	02/11/1986	
,570,068		07/28/1981	
,281,246	White, V et al.	07/03/1979	
,160,161	Horton		
,055,987			
3,626,178			
5,077,434			
5,027,643			
5,914,025			
5,	112,297 055,987 997,298 .626,178 .325,976 .077,434 .027,643 .914,025 .597,734	112,297 Miyagi et al. 112,297 McFadden 997,298 McLafferty et al. 626,178 Cohen 325,976 Small et al. 6077,434 Srinivasan et al. 6027,643 Small et al. 6914,025 Small 6,597,734 Small et al.	112,297 Miyagi et al. 09/05/1978 055,987 McFadden 11/01/1977 997,298 McLafferty et al. 12/14/1976 626,178 Cohen 12/07/1971 325,976 Small et al. 12/04/2001 6,077,434 Srinivasan et al. 06/20/2000 6,027,643 Small et al. 02/22/2000 6,027,643 Small et al. 06/22/1999 6,914,025 Small et al. 01/28/1997 6,597,734 Small et al. 01/28/1997

5,352,360	Stillian et al.	10/04/1994	
5,316,630	Dasgupta	05/31/1994	
5,248,426	Stillian et al.	09/28/1993	
4,999,098	Pohl et al.	03/12/1991	
4,455,233	Pohl et al.	06/19/1984	
4,314,823	Rich, Jr. et al.	02/09/1982	
4,265,634	Pohl	05/05/1981	
4,242,097	Rich, Jr. et al.	12/30/1980	
5,773,615	Small et al.	06/30/1998	

	Т	Т.		FUR	EIGN PATENT DOCUMEN	V15		
Examiner Initials	Cite No.1	Office	U.S. Patent Document Number ⁴	Kind code ⁵ (if known)	Name of Patentee or Applicant of cited document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	Τ ⁶
		EP	0 536 930	A 1	Apffel et al.	04/14/1993		
-		EP	0 510 510	A2	Carlo Erba Strumentazione S.p.A.	10/28/1992		
		EP	0 417 976	A2	Eisai Co., Ltd.	03/20/1991		
		EP	0 343 972	A2	Hewlett-Packard Company	11/29/1989		
		EP	0 342 884	A1	Hewlett-Packard Company	11/23/1989		,
		EP	0 338 572	A1	Hitachi, Ltd.	10/25/1989		
		EP	0 259 796	A3	Sepragen Corporation	03/16/1988		
		EP	0 152 747	_ A2	American Cyanamid Company	08/28/1985		
		EP	0 510 510	A3	Carlo Erba Strumentazione S.p.A.	10/28/1992		
		EP	0 417 976	A3	Eisai Co., Ltd.	03/20/1991		
		EP	0 259 796	A2	Sepragen Corporation	03/16/1988		
		EP	0 338 572	B1	Hitachi, Ltd.	10/25/1989		
		EP	0 898 167	A1	Dionex Corporation	02/24/1999		·
		EP	0 555 962	A2	Dionex Corporation	08/18/1993		ŀ
		EP	0 180 321	B1	Dionex Corporation	05/07/1986		.,
		EP	0 133 782	A1	Dionex Corporation	03/06/1985		
		EP	0 133 781	A1	Dionex Corporation	03/06/1985		
		EP	0 646 239	B 1	Dionex Corporation	04/05/1995		
		EP	0 555 962	A3	Dionex Corporation	08/18/1993		
		EP	0 898 167	Bl	Dionex Corporation	02/24/1999		
		EP	0 758 449	B1	Dionex Corporation	02/19/1997		
		EP	0 671 002	B1	Dionex Corporation	09/13/1995		
		wo	01/80283	A 1	Waters Investments Limited	10/25/2001		
		wo	01/67091	A 1	Dionex Corporation	09/13/2001		
		wo	01/67090	A 1	Dionex Corporation	09/13/2001		
		wo	00/42426	Al	Dionex Corporation	07/20/2000		
		wo	99/44054	A1	Dionex Corporation	09/02/1999		
		wo	99/11351	Al	Dionex Corporation	03/11/1999		
		wo	98/30314	A1	Dionex Corporation	07/16/1998		

	Other Anima V	
61	Other Anions, Journal of Chromatography A, 884, 2000, pp. 53-59, Elsevier Science, Amsterdam.	
	GJERDE, D.T., Cox, D.J., Jandik, P. and Li, J.B., Determination of Analytes at Extreme Concentration Ratios by Gradient Ion Chromatography with Solid-Phase Reaction Detection, Journal of Chromatography, 546, 1991, pp. 151-158, Elsevier Science, Amsterdam.	1
	SINGH, Raj P., Abbas, Nureddin, M. and Smesko, Sally A., Suppressed Ion Chromatographic Analysis of Anions in Environmental Waters Containing High Salt Concentrations, Journal of Chromatography A, 733, 1996, pp. 73-91, Elsevier Science, Amsterdam.	1
	NOVIC, Milko, Kivjak, Blaz and Pihlar, Boris, On-Column Processes in Ion Chromatographic Determination of Nitrite and Nitrate in Heavy Mineralised Samples, Journal of Chromatography A, 827, 1998, pp. 83-89, Elsevier Science, Amsterdam.	
	KAISER, Edward, Rohrer, Jeffrey S. and Jensen, Detlef, Determination of Trace Anions in High- Nitrate Matrices by Ion Chromatography, Journal of Chromatography A, 920, 2001, pp. 127-133, Elsevier Science, Amsterdam.	
	SIRIRAKS, Archava, Pohl, Christopher A. and Toofan, Mahmood, Determination of Trace Anions in Concentrated Acids by Means of a Moderate-Capacity Anion-Exchange Column, Journal of Chromatography, 602, 1992, pp. 89-95, Elsevier Science, Amsterdam.	
	CHARLES, L., Pepin, D and Casetta, B., Electrospray Ion Chromatography-Tandem mass Spectrometry of Bromate at Sub-ppb Levels in Water, Analytical Chemistry, August 1, 1996, pp. 2554-2558, Vol. 68, No. 15.	,
	CHARLES, L., and Pepin, D., Electrospray Ion Chromatography-Tandem Mass Spectrometry of Oxyhalides at Sub-ppb Levels, Analytical Chemistry, January 15, 1998, pp. 353-359, Vol. 70, No. 2.	
	MOHSIN, Sheher Bano, Ion Chromatography Coupled with Mass Spectrometry for the Determination of Ionic Compunds in Agricultrual Chemicals, Analytical Chemistry, August 15, 1999, pp. 3603-3609, Vol. 71, No. 16.	
	LACOURSE, William R., Column Liquid Chromatography: Equipment and Instrumentation, Analytical Chemistry, June 15, 2000, pp. 37R-51R, Vol. 72, No. 12.	(
	BURLINGAME, A.L., Boyd, Robert K. and Gaskell, Simon J., Mass Spectrometry, Analytical Chemistry, June 15, 1996, pp. 599R-651R, Vol. 68, No. 12.	
	WILLOUGHBY, Ross, Sheehan, Edward and Mitrovich, Samuel, A Global View of LC/MS: How to Solve Your Most Challenging Analytical Problems, Global View Publishing, Pittsburgh, Pennsylvania.	
	ROEDER, V. and Jardy, A., Determination of Inorganic Contaminants in Concentrated Reagents by Ion Chromatography, Analusia, March 1996, pp. 43-48, Elsevier, Paris, France.	
1	Buldini, Pier Luigi, Sharma, Jawahar Lal and Sarma, Shikha, Determination of Tace Amounts of Anionic Imputities in Hydrochloric Acid by Ion Chromatography, The Analyst, January 1994, pp. 121-124,	

Examiner Date	- /
	1
1 Signature	Į
Signature Considered	ı

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent & Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Examiner Cite Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the					
Examiner nitials	No.1	Item (book, magazine, journal, senal, symposium, catalog, etc.), date, page(s), volume-issue number(s), Publisher, city, and/or country where published.	T ²		
		KAISER, Edward, Rohrer, Jeffrey S. and Watanabe, Kazuo, Determination of Trace Anions in Concentrated Weak Acids by Ion Chromatography, Journal of Chromatography A, 850, 1999, pp. 167-176, Elsevier Science, Amsterdam.			
		VANDERFORD, Griselda, Determination of Trace Anions in Hydrofluoric Acid by Ion Chromatography, 602, 1992, pp. 75-78, Elsevier Science, Amsterdam.	(
		MURAYAMA, Mitsunori, Suzuki, Masao and Takitani, Shoji, Determination of Trace Anionic Impurities in Concentrated Inorganic Acids by Recycle Ion Chromatography, 466, 1989, pp. 355-363, Elsevier Science, Amsterdam.			
		MOHSIN, Sheher Bano, Use of Ion Chromatography – electrospray mass spectrometry for the Determination of Ionic Compounds in Agricultural Chemicals, Journal of Chromatography A, 884, 2000, pp. 23-30, Elsevier Science, Amsterdam.	-		
		AHRER, Wemer and Buchberger, Wolfgang, Analysis of Low-Molecular-Mass Inorganic and Organic Anions by Ion Chromatography-Atmospheric Pressure Ionization Mass Spectrometry, Journal of Chromatography A, 854, 1999, pp. 275-287, Elsevier Science, Amsterdam.			
		BUCHBERGER, Wolfgang and Ahrer, Werner, Combination of Suppressed and Non-Suppressed Ion Chromatography with Atmospheric Pressure Ionization Mass Spectrometry for the Determination of Anions, Journal of Chromatography A, 850, 1999, pp. 99-106, Elsevier Science, Amsterdam.	/		
		CHARLES, L., and Pepin, D., Analysis of Oxyhalides in Water by Ion Chromatography-Ionspray Mass Spectrometry, Journal of Chromatography A, 804, 1998, pp. 105-111, Elsevier Science, Amsterdam.	(
; .		ALEXANDER, James N., Quinn, Chad J., Organic Acid Analysis by Ion Chromatography-Particle Beam Mass Spectrometry, Journal of Chromatography, 647, 1993, pp. 95-100, Elsevier Science, Amsterdam.			
		SEUBERT, A., Schminke, G., Nowak, M., Ahrer, W. and Buchberger, W., Comparison of On-Line Coupling of Ion-Chromatography with Atmospheric Pressure Ionization Mass Spectromety and with Inductively Coupled Plasma mass Spectrometry as Tools for the Ultra-Trace Analysis of Bromate in Surface Water Samples, Journal of Chromatography A, 884, 2000, pp. 191-199, Elsevier Science, Amsterdam.			
		BUCHBERGER, Wolfgang and Haider, Karl, Studies on the Combination of Ion Chromatography-Particle-Beam Mass Spectrometry with Capillary Columns, Journal of Chromatography A, 770, 1997, pp. 59-68, Elsevier Science, Amsterdam.	/		
		VILLASENOR, Steven R., "Heart-Cut" Column Switching Techniques for the Determination of an Aliphatic Amine in an Organic Matrix and for Low Levels of Sulfate in an Anion Matrix, Journal of Chromatography A, 671, 1994, pp. 11-14, Elsevier Science, Amsterdam.	4		
		WEIR, S.I., Butler, E.C.V., Haddad, P.R., Ion Chromatography with UV Detection for the Determination of Thiosulfate and Polythionates in Saline Waters, Journal of Chromatography A, 671, 1994, pp. 197-203, Elsevier Science, Amsterdam.			
		KILLGORE, Kendall J., and Villasenor, Steven R., Systematic Approach to Generic Matrix Elimination via "heart-cut" Column-Switching Techniques, Journal of Chromatography A, 739, 1996, pp. 43-48, Elsevier Science, Amsterdam.			
		MEDINA, Hilda Ledo de, Gutierrez, Elizabeth, Colina de Vargas, Marinela, Gonzalez, Graciela, Marin, Julio and Andueza, Eduardo, Determination of Phosphate and Sulphite in Natural Waters in the Presence of High Sulphate Concentrations by Ion Chromatography Under Isocratic Conditions, Journal of Chromatography A, 739, 1996, pp. 207-215, Elsevier Science, Amsterdam.			
		HUANG, Yuan, Mou, Shi-Fen, Liu, Ke-Na and Rivielo, J.M., Simplifies Column-Switching Technology for the Determination of Traces of Anions in the Presence of High Concentrations of	,		